



TESTIMONY OF

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MARYLAND DEPARTMENT OF THE ENVIRONMENT

SUBMITTED TO THE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT

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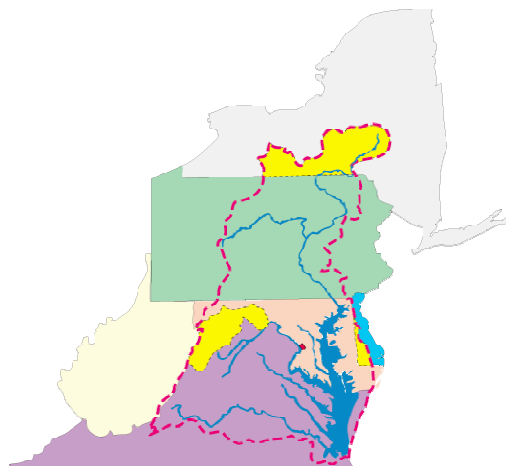
FINANCING WATER INFRASTRUCTURE PROJECTS

Mr. Chairman and members of the Committee, my name is Jag Khuman. I serve as the Director of the Maryland Water Quality Financing Administration (MWQFA). The MWQFA is a unit within the Maryland Department of the Environment, and is responsible for the financial management of the Water Quality Revolving Loan Fund, the Drinking Water Revolving Loan Fund, and the recently enacted Maryland Bay Restoration Fund. Thank you for inviting me to speak about the Maryland Bay Restoration Fund, a major new State initiative for financing sewerage infrastructure projects.

The 2004 water quality needs survey estimates over \$6 billion of sewer infrastructure needs in Maryland over the next 20 years. One key needs category is the capital cost to upgrade wastewater treatment plants (WWTPs) with advanced treatment for nutrient removal, before effluent is discharged into the Chesapeake Bay and its tributaries. These WWTPs upgrades are necessary if Maryland is to meet its nutrient reduction commitments under the 2000 Chesapeake Bay Agreement.

The water quality of the Chesapeake Bay is vital to Maryland's economy and the region. The main cause of the Chesapeake Bay's poor water quality and aquatic habitat loss is due to elevated levels of nitrogen and phosphorous. Although nutrients are essential to plant life within the Chesapeake Bay, excessive amounts of nitrogen and phosphorus create dense algae blooms. These blooms reduce the amount of sunlight available to submerged aquatic vegetation. The loss of sunlight kills the grasses as a result of their inability to photosynthesize and produce the food needed to survive. As excess algae decomposes, oxygen in the water is depleted, causing fish and other species to die.

The 64,000 square mile Chesapeake Bay watershed includes parts of six states: Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia, and the entire District of Columbia. It is home to over 15 million people. Five major rivers feed into the Chesapeake Bay: Susquehanna, Potomac, James, Rappahannock, and York. Nutrients enter the Bay via rivers and streams from Point and Nonpoint Sources. The vast majority of point source discharges of nutrients are from WWTPs, with smaller contributions from industries. Nonpoint Sources of nutrients are runoff from farms, feedlots, lawns, parking lots, streets, forests and from air, groundwater and septic systems.



Existing Financing Programs for Nutrient Reduction from WWTPs

Based on Maryland's commitment under the 1983 Chesapeake Bay Agreement with its neighboring States, the State implemented a Biological Nutrient Removal Program (BNR). Under the BNR program the State of Maryland provided 50% of capital costs in grant funding to upgrade 66 large WWTPs with design capacity of 500,000 gallons/day or more. The remaining projects costs could be financed at below market interest rate through the Water Quality Revolving Loan Fund program. Funding for the State grant portion is provided through annual appropriation of general obligation bonds. The goal of the BNR program is to reduce nitrogen levels in the treated wastewater (effluent) down to 8 mg/l. Without BNR, a typical WWTP discharges nitrogen at a level of about 18 mg/l. As of 2002, nitrogen loading to the Chesapeake Bay from Maryland WWTPs has been reduced from the 1985 level by about 16.9 million lbs/yr and phosphorus loading by 1.7 million lbs/yr through a voluntary cooperative effort between the State and WWTP owners. Through FY 2005, the State of Maryland has provided \$208 million in grant funding for the BNR program. It is estimated that an additional \$92 million in State grant funding is needed to complete the BNR upgrades, and the State is committed to providing the funding through annual capital appropriations.

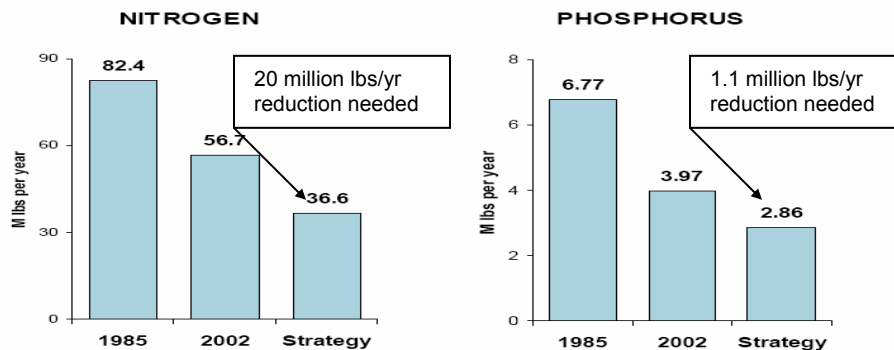
Under the 2000 Chesapeake Bay Agreement, Maryland and its neighboring States have made a commitment to correct the nutrient and sediment-related problems in the Chesapeake Bay and its tidal tributaries. The goal is to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act, by 2010. To meet this goal, the six Bay States and Washington DC will have to limit the amount of nutrient loading to a maximum of 183 million lbs/yr nitrogen and 12.8 million lbs/yr phosphorus. Maryland's numerical limit is a maximum of 37 million lbs/yr nitrogen and 2.9 million lbs/yr phosphorus.

Maximum Nutrient Loading Goals

	Nitrogen (Million lbs/yr)	Phosphorus (Million lbs/yr)
PA	72	2.3
MD	37	2.9
VA	51	6.0
DC	2	0.3
NY	13	0.6
DE	3	0.3
WV	5	0.4
Subtotal	183	12.8

Maryland's Chesapeake Bay tributary strategy focuses on nutrient reduction from both Point and Nonpoint sources to accomplish the above goal. Under the strategy, Maryland still needs to reduce nitrogen loading by 20 million lbs/year and phosphorus by 1.1 million lbs/year.

State of Maryland Tributary Strategy Goals



Maryland Bay Restoration Fund

Based on projected future capital infrastructure needs and the limited funding currently available, the State of Maryland recognized that the current level of funding is not adequate to address the Enhanced Nutrient Removal (ENR) upgrades at WWTPs. Recognizing that significant effort is still necessary to achieve the targeted nutrient reduction goals by 2010, Maryland Governor Robert L. Ehrlich, Jr., proposed legislation during the 2004 legislative session to create the Bay Restoration Fund (BRF). The BRF legislation was passed by the Maryland General Assembly and signed into law on May 26, 2004.

The BRF legislation created a dedicated source of new State funding to upgrade WWTPs from the Biological Nutrient Removal level to the Enhanced Nutrient Removal (ENR) level by providing up to 100% in grants. Under ENR, the WWTPs will be upgraded to lower the nutrients in the treated wastewater to 3mg/l nitrogen and 0.3 mg/l phosphorus. The capital cost to upgrade the largest 66 WWTPs in Maryland with ENR is estimated at \$740 million. These WWTPs account for about 95% of the total sewage generated in the State. These ENR upgrades will allow Maryland to achieve an estimated 7.5 million lbs/yr of additional nitrogen reduction and 0.26 million lbs/yr of phosphorus reduction. This action alone will accomplish about 37% of the 20 million lbs/yr nitrogen reduction goal and about 24% of the 1.1 million lbs/yr phosphorus reduction goal for Maryland. The BRF legislation also created a funding mechanism for providing grants and loans to upgrade onsite septic systems with nitrogen removal technologies and for providing grants for cover crops on agricultural land.

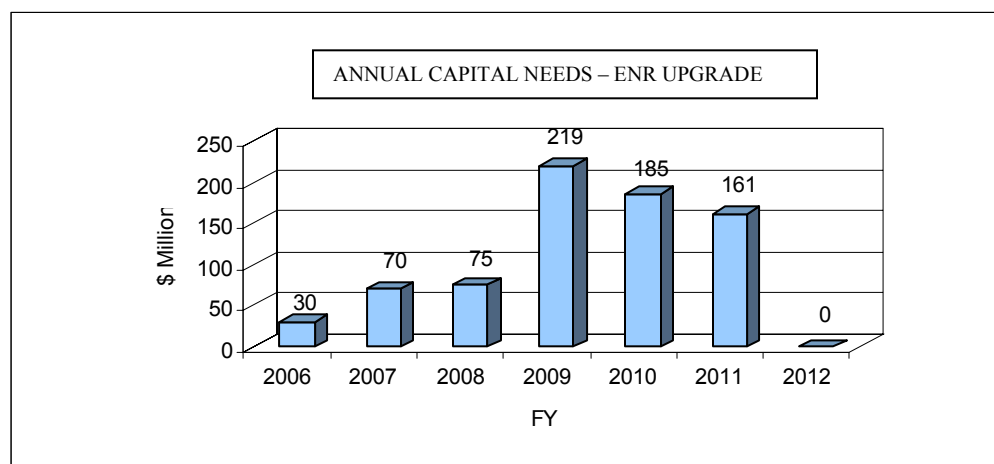
The Maryland BRF will be financed through a fee of \$2.50/month (\$30 per year) on each household that is connected to a WWTP. Similarly, non-residential users connected to WWTPs will pay a BRF fee of \$2.50/month per equivalent dwelling unit (EDU), for the first 3,000 EDU, \$1.25/month per EDU for the next 2,000 EDU, with a maximum fee of \$10,000/month for a single user. One EDU is defined as the average daily water consumption of 250 gallons. The BRF fee on users connected to WWTPs became effective January 1, 2005 and will be collected by the water/sewer authorities along with their existing billing systems. It is estimated this will generate \$60 million/yr.

Under the legislation, the BRF fees generated from users connected to WWTPs, can be used for:

- Providing grants up to 100% for the capital cost to upgrade targeted WWTPs from BNR (effluent nitrogen of 8 mg/l) to ENR (effluent nitrogen of 3mg/l and phosphorus of 0.3 mg/l) level.
- Providing grants for existing sewer system rehabilitation using up to \$5 million per year during Fiscal Years 2005 through 2009.
- Providing grants to WWTP owners for ENR operations and maintenance costs (up to 10% of annual fee revenue), starting fiscal year 2010.
- Payment of Debt Service on Bonds if Bond proceeds are deposited in the Fund.
- Reasonable administrative expenses (% of fee revenue): State Comptroller's Office (up to 0.5%); Water/Sewer Billing Authorities (up to 5%); Maryland Department of the Environment (up to 1.5%).

ENR Financing Plan

Although \$60 million/yr of revenue is expected from the BRF (WWTP) user fees, the State of Maryland's goal is to complete the ENR upgrades at the targeted 66 WWTPs, at an estimated cost of \$740 million, by fiscal year 2011. Starting in FY 2006, the goal is to start planning/design at 15 to 20 WWTPs annually, followed by ENR construction, and complete all upgrades by FY 2011. The projected annual capital cash flow needed is shown below:



To provide the necessary funding, the MWQFA will use both BRF fee revenue and issue revenue bonds to meet the cash flow needs for ENR upgrades. Based on preliminary cash flow projections, approximately \$510 million in revenue bonds will need to be issued between FY 2008 and FY 2011, to finance the \$740 million of ENR infrastructure needs. A portion of the annual fee revenue will be used to pay the debt service on the bonds. The table below provides a preliminary financing plan showing revenues and expenses by fiscal year.

Maryland Bay Restoration Fund									
WWTP Upgrade Cash Flow Projection									
Fiscal Year	2005	2006	2007	2008	2009	2010	2011	2012	
Revenues									
Net WWTP Revenue (1)	\$ 28,925,966	\$ 57,999,681	\$ 57,999,681	\$ 57,999,681	\$ 57,999,681	\$ 57,999,681	\$ 57,999,681	\$ 57,999,681	\$ 57,999,681
Net Bond Sale Proceeds (2)	\$ -	\$ -	\$ -	\$ 49,250,000	\$ 128,050,000	\$ 167,450,000	\$ 157,600,000	\$ -	\$ -
Total Revenue	\$ 28,925,966	\$ 57,999,681	\$ 57,999,681	\$ 107,249,681	\$ 186,049,681	\$ 225,449,681	\$ 215,599,681	\$ 57,999,681	\$ 57,999,681
Expenditures									
ENR Capital Grants	\$ -	\$ 30,000,000	\$ 70,000,000	\$ 75,000,000	\$ 219,000,000	\$ 185,000,000	\$ 161,000,000	\$ -	\$ -
Sewer Infrastructure Grants	\$ -	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ -	\$ -	\$ -	\$ -
ENR O&M Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
Debt Service Reserve	\$ -	\$ -	\$ -	\$ 5,000,000	\$ 13,000,000	\$ 17,000,000	\$ 16,000,000	\$ -	\$ -
Debt Service (Bonds)	\$ -	\$ -	\$ -	\$ -	\$ 4,817,114	\$ 17,341,612	\$ 33,719,801	\$ 49,134,567	\$ 49,134,567
Total Expenditure	\$ -	\$ 35,000,000	\$ 75,000,000	\$ 85,000,000	\$ 241,817,114	\$ 224,341,612	\$ 215,719,801	\$ 54,134,567	\$ 54,134,567
Fund Balances (3)									
Beginning Balance	\$ -	\$ 28,925,966	\$ 51,925,647	\$ 34,925,328	\$ 57,175,009	\$ 1,407,576	\$ 2,515,645	\$ 2,395,525	\$ 2,395,525
Ending Balance	\$ 28,925,966	\$ 51,925,647	\$ 34,925,328	\$ 57,175,009	\$ 1,407,576	\$ 2,515,645	\$ 2,395,525	\$ 6,260,640	\$ 6,260,640
Bond Issuance									
Bonds Issued (4)	\$ -	\$ -	\$ -	\$ 50,000,000	\$ 130,000,000	\$ 170,000,000	\$ 160,000,000	\$ -	\$ -
(1) Assumes no growth in revenue (2) Net of bond issuance costs, estimated at 1.5% of bonds issued (3) Assumes no investment income (4) Assumes 15-year term bonds at 5% interest rate, level debt service									

In addition to a dedicated source of funding, one key advantage of the BRF is that the State gets to manage the ENR schedule, with the goal of completing all the upgrade by FY 2011. Past experience has shown that under a voluntary program, where the WWTP owners have to partially provide the funding, there are considerable program implementation delays.

The BRF legislation also imposed a \$30/yr fee per users of an onsite sewage disposal (septic) system or holding tank. The BRF fee on users of septic/holding tanks is effective October 1, 2005 and is to be collected by the County where the septic/holding is located. It is estimated this will generate \$12 million/yr.

Under the legislation, 60% (approximately \$7 million/yr) of the BRF fees generated from users on septic/holding tanks can be used for providing grants and loans to upgrade septic systems with nitrogen removal technologies. The other 40% (approximately \$5 million/yr) can be used to provide grants for cover crops. In addition, a portion of the BRF fees (septic) revenue can be used for reasonable administrative expenses (% of fee revenue): State Comptroller's Office (up to 0.5%); County Billing Authorities (up to 5%); Maryland Department of the Environment (up to 8%); Maryland Department of Agriculture (up to 1.5%).

The Septic System Upgrade Program will be implemented through the Maryland Department of the Environment (MDE). The details on how the grant and loan funds will be distributed have not yet been finalized. The BRF (septic) fee will only address a small portion of the State tributary strategies goal of upgrading some 350,000 septic tanks with nitrogen removal technology.

The Cover Crop program will be implemented through the Maryland Department of Agriculture, which will involve providing grants to farmers to plant certain plants during non-harvest season to consume excessive nitrogen that would otherwise either runoff into surface waters or go into ground water. The BRF (septic) fee will only address a small portion of the State tributary strategies goal of 600,000 acres of cover crops, which at a cost of \$40 per acre would require \$24 million annually.

In summary, because existing federal funding is currently insufficient to meet the water quality infrastructure upgrade needs, the States are trying to develop their own funding programs to fill a portion of the funding gap. The Maryland initiative will provide an additional \$740 million over the next 6 years and will reduce only 37% of the nitrogen and 24% of the phosphorous needed to reach the Chesapeake Bay nutrient reduction goals. With over \$6 billion in future water quality infrastructure needs in Maryland, we believe that increased federal funding should be provided to help States and localities meet the water quality infrastructure improvement needs.

Thank you for the opportunity to testify. I would be happy to answer any questions that you may have.